

In re Claims:

1-32: Previously Cancelled

33. (Currently Amended) A vacuum pump comprising:

a drivable rotor having a blade in a housing which can be set in rotation, the rotor being comprising plastic and being formed as one piece, the rotor comprising a first longitudinal section configured for being coupled to a drive shaft via which a torque can be transmitted from a drive shaft to the rotor and that the first longitudinal section being formed as one piece with the rotor and wherein the rotor comprises has a slot and first and second support sections, characterized in that the rotor comprises a second longitudinal section and a third longitudinal section and the second and the third longitudinal sections being formed as one piece with the rotor and the rotor has one slot for the receipt of one blade, said one slot being disposed in the third longitudinal section.

34. (Previously Added) A vacuum pump according to claim 33, wherein the rotor has at least one cavity open at the edge.

35. (Previously Added) A vacuum pump according to claim 34, wherein the cavity is introduced from a position consisting of the group consisting of the drive-side frontal side of the rotor and the frontal face of the rotor turned away from the drive.

36. (Previously Added) A vacuum pump according to claim 33, wherein the rotor comprises walls having a slight thickness.

37. (Previously Added) A vacuum pump according to claim 33, wherein the rotor comprises two wall areas and a transition between the two wall areas of the rotor having a different thickness, the which is continuous.

38. (Previously Added) A vacuum pump according to claim 33, wherein the slot has a diameter is smaller than the rotor diameter in the area of the slot in which the blade is displaceable.

39. (Previously Added) A vacuum pump according to claim 33, wherein the rotor has a diameter and a slot and wherein the rotor has at least one support whose diameter is the same as the rotor diameter in the area of the slot in which the blade is displaceable.

40. (Previously Added) A vacuum pump according to claim 33, wherein the rotor has a slot and two supports and wherein a diameter of at least one of the supports is smaller than the rotor diameter in the area of the slot.

41. (Previously Added) A vacuum pump according to claim 33, wherein the rotor has at least two cavities disposed next to one another which are separated from one another by a rib.

42. (Previously Added) A vacuum pump according to claim 41, wherein the rotor has wall areas and wherein the rib is thinner than the rest of the wall areas of the rotor.

43. (Previously Added) A vacuum pump according to claim 33, further comprising a coupling formed by a disk and wherein the rotor can be energized with a torque via the coupling.

44. (Previously Added) A vacuum pump according to claim 43, wherein the disk has a thickness and a diameter, and wherein the ratio of the thickness (b) and the diameter (d) of the disk lies in a range of $0.14 \leq b/d \leq 0.3$.

45. (Previously Amended) A vacuum pump according to claim 33, wherein the rotor has a drive segment having a support length (l) and the rotor having a diameter and wherein the diameter (D) of the rotor lies in a range of $0.35 \leq l/D \leq 0.65$.

46. (Previously Amended) A vacuum pump according to claim 33, further comprising at least two drive segments which are connected to one another by a closed ring.

47. (Previously Amended) A vacuum pump according to claim 33, further comprising a coupling having a drive mechanism selected from the group consisting of a long hole in which a drive shaft engages and a drive tongue which engages in a corresponding slot in a drive shaft.

48. (Previously Amended) A vacuum pump according to claim 47, wherein the drive tongue has a double surface formed by a first longitudinal section of the rotor which is provided with a vat-like cap preferably consisting of sheet metal.

49. (Previously Amended) A vacuum pump according to claim 33, wherein the rotor has an elastic drive element working together with a drive shaft.

50. (Previously Amended) A vacuum pump according to claim 33, further comprising a drive element.

51. (Previously Amended) A vacuum pump according to claim 50 wherein the drive element is spring steel.

52. (Previously Amended) A vacuum pump according to claim 50, wherein drive element projects into a slot in a drive shaft and is displaceably guided in it.

53. (Previously Amended) A vacuum pump according to claim 52, wherein the drive element engages in a slot-like recess in the rotor.

54. (Previously Amended) A vacuum pump according to claim 50, wherein the drive element is held undisplaceably in the recess.

55. (Previously Amended) A vacuum pump according 50, wherein the drive element is embedded in the rotor.

56. (Previously Amended) A vacuum pump according to claim 50, of the preceding claims characterized by the fact that the drive element is formed in the shape of a U.

57. (Previously Amended) A vacuum pump according claim 50, wherein the rotor comprises at least one stop surface during the energizing of the drive element with a torque.

58. (Previously Amended) A vacuum pump according to claim 57, wherein the drive element is formed as a ball in a bearing area of the rotor.

59. (Previously Amended) A vacuum pump according to claim 50, wherein the rotor has at least one stop for the drive element.

60. (Previously Amended) A vacuum pump according to claim 50, wherein the drive element is angled off at an end engaging a recess in the rotor.

61. (Previously Amended) A vacuum pump according to claim 33, wherein the rotor is disposed in communication with a motor.

62. (Previously Amended) A vacuum pump according to claim 33, wherein the rotor has a first longitudinal section which can be coupled to a drive shaft via which a torque can be transmitted from the drive shaft to the rotor and that the first longitudinal section is formed as one piece with the rotor.

63. (Previously Amended) A vacuum pump according to claim 33, further comprising
a coupling having a bearing surface; and
an opposing surface disposed at the rotor for each bearing surface of the coupling where a torque transmitted from a drive shaft can be conducted into the rotor via the opposing surface.

64. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has at least one cavity open at the edge.

65. (Previously Amended) A vacuum pump according to claim 64, wherein the cavity is introduced from a position consisting of the group consisting of the drive-side frontal side of the rotor and the frontal face of the rotor turned away from the drive.

66. (Previously Amended) A vacuum pump according to claim 63 characterized by the fact that the opposing surface is located on a drive segment projecting over the drive-side frontal surface of the rotor (1).

67. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has walls having a slight thickness.

68. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor comprising two wall areas and a transition between the two wall areas of the rotor having a different thickness which is continuous.

69. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has a slot and at least one support having a diameter is smaller than the rotor diameter in the area of the slot in which the blade is displaceable.

70. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has a diameter and a slot and wherein the rotor has at least one support whose diameter is the same size as the rotor diameter in the area of the slot in which the blade is displaceable.

71. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has a slot and two supports and wherein a diameter of at least one of the supports is smaller than the rotor diameter in the area of the slot.

72. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has at least two cavities disposed next to one another which are separated from one another by a rib.

73. (Previously Amended) A vacuum pump according to claim 72, wherein the rotor has wall areas and wherein the rib is thinner than the rest of the wall areas of the rotor.

74. (Previously Amended) A vacuum pump according to claim 63, further comprising a coupling formed by a disk and wherein the rotor can be energized with a torque via the coupling.

75. (Previously Amended) A vacuum pump according to claim 74, wherein the disk has a thickness and a diameter, and wherein the ratio of the thickness (b) and the diameter (d) of the disk lies in a range of $0.14 \leq b/d \leq 0.3$.

76. (Previously Amended) A vacuum pump according to claim 63, wherein the disk has a drive segment having a support length (l) and the rotor having a diameter and wherein the diameter (D) of the rotor lies in a range of $0.35 \leq l/D \leq 0.65$.

77. (Previously Amended) A vacuum pump according to claim 63, further comprising at least two drive segments which are connected to one another by a closed ring.

78. (Previously Amended) Vacuum pump according to claim 63, further comprising a coupling having a drive mechanism selected from the group consisting of a long hole in which the drive shaft engages and a drive tongue which engages in a corresponding slot in a drive shaft.

79. (Previously Amended) A vacuum pump according to claim 78, wherein the drive tongue has a double surface formed by a first longitudinal section of the rotor which is provided with a vat-like cap preferably consisting of sheet metal.

80. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has an elastic drive element working together with a drive shaft.

81. (Previously Amended) A vacuum pump according to claim 63, further comprising a drive element.

82. (Previously Amended) A vacuum pump according to claim 81, wherein the drive element projects into a slot in a drive shaft and is displaceably guided in it.

83. (Previously Amended) A vacuum pump according to claim 82, wherein the drive element engages in a slot-like recess in the rotor.

84. (Previously Amended) A vacuum pump according to claim 81, wherein the drive element is held undisplaceably in the recess.

85. (Previously Amended) A vacuum pump according 81, wherein the drive element is embedded in the rotor.

86. (Previously Amended) A vacuum pump according to claim 81, wherein the drive element is formed in the shape of a U.

87. (Previously Amended) A vacuum pump according to claim 81, wherein the rotor comprises at least one stop surface during the energizing of the drive element with a torque.

88. (Previously Amended) A vacuum pump according to claim 87, wherein the drive element is formed as a ball in a bearing area of the rotor.

89. (Previously Amended) A vacuum pump according to claim 81, wherein the rotor has at least one stop for the drive element.

90. (Previously Amended) A vacuum pump according to claim 81, wherein the drive element is angled off at an end engaging a recess in the rotor.

91. (Previously Amended) Vacuum pump according to claim 63, wherein the rotor is disposed in communication with a motor.

92. (Previously Amended) A vacuum pump according to claim 63, wherein the rotor has a first longitudinal section which can be coupled to a drive shaft via which a torque can be transmitted from the drive shaft to the rotor and that the first longitudinal section is formed as one piece with the rotor.

93. (Previously Amended) A vacuum pump according to claim 33, wherein the rotor has at least two cavities which are each introduced from a frontal side of the rotor and that the rotor has at least one closed wall running transversely or essentially transversely to the central longitudinal axis of the rotor, said wall separating the cavities from one another in the axial direction.

94. (Previously Amended) A vacuum pump according to claim 93, wherein the cavities extend in the axial direction into the central area of the rotor.

95. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has walls have a slight thickness.

96. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor comprises two wall areas and a transition between the two wall areas of the rotor having a different thickness which is continuous.

97. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has a slot and at least one support having a diameter is smaller than the rotor diameter in the area of the slot in which the blade is displaceable.

98. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has a diameter and a slot and wherein the rotor has at least one support whose diameter is the same size as the rotor diameter in the area of the slot in which the blade is displaceable.

99. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has a slot and two supports and wherein a diameter of at least one of the supports is smaller than the rotor diameter in the area of the slot.

100. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has at least two cavities disposed next to one another which are separated from one another by a rib.

101. (Previously Amended) A vacuum pump according to claim 100, wherein the rotor has wall areas and wherein the rib is thinner than the rest of the wall areas of the rotor.

102. (Previously Amended) A vacuum pump according to claim 93, further comprising a coupling formed by a disk and wherein the rotor (1) can be energized with a torque via the coupling.

103. (Previously Amended) A vacuum pump according to claim 102, wherein the disk has a thickness and a diameter, and wherein the ratio of the thickness (b) and the diameter (d) of the disk lies in a range of $0.14 \leq b/d \leq 0.3$.

104. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has a drive segment having a support length (l) and the rotor having a diameter and wherein the diameter (D) of the rotor lies in a range of $0.35 \leq l/D \leq 0.65$.

105. (Previously Amended) A vacuum pump according to claim 93, further comprising at least two drive segments which are connected to one another by a closed ring.

106. (Previously Amended) A vacuum pump according to claim 93, further comprising a coupling having a drive mechanism selected from the group consisting of a long hole in which the drive shaft engages and a drive tongue which engages in a corresponding slot in a drive shaft.

107. (Previously Amended) A vacuum pump according to claim 105, wherein the drive tongue has a double surface formed by a first longitudinal section of the rotor which is provided with a vat-like cap preferably consisting of sheet metal.

108. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has an elastic drive element working together with a drive shaft.

109. (Previously Amended) A vacuum pump according to claim 93, further comprising a drive element.

110. (Previously Amended) A vacuum pump according to claim 109, wherein drive element projects into a slot in a drive shaft and is displaceably guided in it.

111. (Previously Amended) A vacuum pump according to claim 109, wherein the drive element engages in a slot-like recess in the rotor.

112. (Previously Amended) A vacuum pump according to claim 109, wherein the drive element is held undisplaceably in the recess.

113. (Previously Amended) A vacuum pump according to 109, wherein the drive element is embedded in the rotor.

114. (Previously Amended) A vacuum pump according to claim 109, wherein the drive element is formed in the shape of a U.

115. (Previously Amended) A vacuum pump according to claim 109, wherein the rotor comprises at least one stop surface during the energizing of the drive element with a torque.

116. (Previously Amended) A vacuum pump according to claim 109, wherein the drive element is formed as a ball in a bearing area of the rotor.

117. (Previously Amended) A vacuum pump according to claim 109, wherein the rotor has at least one stop for the drive element.

118. (Previously Amended) A vacuum pump according to claim 109, wherein the drive element is angled off at an end engaging a recess in the rotor.

119. (Previously Amended) Vacuum pump according to claim 93, wherein the rotor is disposed in communication with a motor.

120. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has a first longitudinal section which can be coupled to a drive shaft via which a torque can be transmitted from the drive shaft of the rotor and that the first longitudinal section is formed as one piece with the rotor.

121. (Previously Amended) A vacuum pump according to claim 93, wherein rotor has a opposing surface and further comprising a coupling having a bearing surface of a coupling where a torque transmitted from the drive shaft can be conducted into the rotor via the opposing surface.

122. (Previously Amended) A vacuum pump according to claim 93, wherein the rotor has at least one cavity open at the edge.

123. (Previously Amended) A vacuum pump according to claim 122, wherein the cavity is introduced from a position selected from the frontal side of the rotor and from its frontal face (5) turned away from the drive.